

REMARKS

Applicant thanks the Examiner for the thorough examination given the present application. Claims 1-10 are now present in the application.

The Office Action dated October 16, 2008 has been received and carefully reviewed. Each issue raised in the Office Action is addressed below. Reconsideration and allowance of the pending claims are respectfully requested in view of the following remarks.

Legal Standard for Anticipation and Obviousness Rejections

According to *MPEP* §2131, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. Of California, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ...claims." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913 (Fed. Cir. 1989).

Similar to anticipation rejections, in order to establish a *prima facie* case of obviousness, the prior art references must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" (See In Re Kahn, 441 F.3d 977, 988 (CA Fed. 2006)).

Claim Rejections – 35 U.S.C. § 103

Claims 1-6 and 8-10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Pat. No. 6,792,843 to Mohr et al. ("Mohr") in view of "admitted prior art" on page 4 of the specification. Applicant submits the Examiner has failed to establish *prima facie* obviousness, respectfully traverse the rejection and request reconsideration and withdrawal of the rejection and allowance for the following reasons. A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the cited references must teach or suggest each and every element in the claims. In addition to the above, see *M.P.E.P.* § 706.02(j); *M.P.E.P.* 2141-2144.

The instant invention is directed to a new combination of materials, which when combined in the particular manner claimed, provide protection against explosion while costing less and weighing less than previous protective materials.

Conventionally, in the art of such protection from projectiles, those skilled in the art have used metal plates as protective material, which plates while providing good penetration resistance, are extremely heavy. In an attempt to lighten the protective material, hard ceramic plates have been for some time substituted for the metal plates. Such hard ceramic plates have worked effectively, but have also required substantial additional layers of aramid fibers, glass reinforced plastic, wood, aluminum, and etc. in order to properly support the hard ceramic plates to improve the “multihit capability” as described in column 1, line 14, through column 2, line 12, of Mohr. These hard ceramic plates are not formed as “particles” as alleged in the rejection, but as hard and solid composites which result from refractory processes, or reaction bonding as described in Palika, Ghiorse and Aghajanian, the references kindly made of record by the Examiner in the first Office Action. No one of ordinary skill in the art of ballistic ceramic tiles would characterize them as “inherently ‘particle shaped’” as the Examiner has done on page 2 of the Office Action. A reading of the above-noted section of the Mohr reference reveals significant prior effort at providing support for the hard ceramic plates, and indeed the entire thrust of this reference is to provide a very complicated support for these hard refractory ceramic plates to improve protection from projectiles. Now, to the contrary, Applicant has discovered that when a very specific composition of fine ceramic particle material, heretofore known only for use in the oil industry as a catalyst, is substituted for the conventional hard ceramic plates, significantly improved explosion protection results, and this improvement does not require such complicated support. So what might look like an obvious substitution when the new invention has already been carefully described by Applicant, is actually only obvious if one already has the benefit of the invention before him. This is the obvious-in-the-light-of-hindsight reconstruction not permitted in law.

Claim 1 requires, *inter alia*, an assembly for protection against an explosion, the

assembly including a substantially plate-shaped multi-ply element formed by two outer walls and at least one intermediate layer of a particle-shaped material, the at least one layer of a particle-shaped material is a ceramic material comprising individual ceramic particles, the ceramic material presenting a density in the range of approximately 0.3 to 1.5 g/cm³, a pore diameter in the range of approximately 20 to 120 μ and a physical size in the range of approximately 0.5 to 10 mm.

To the contrary, Mohr only discloses solid 8.5 mm thick hard ceramic tiles of dimensions 30 mm x 30 mm. There is no disclosure of a ceramic material comprising individual ceramic particles, the ceramic material presenting a density in the range of approximately 0.3 to 1.5 g/cm³, a pore diameter in the range of approximately 20 to 120 μ and a physical size in the range of approximately 0.5 to 10 mm. In search of a material to meet these limitations, the rejection turns to applicant's disclosure, which is of a particulate material only available from a Danish company for use as catalytic material for the oil industry. Such a substitution for the solid ceramic plates in Mohr would not have even been considered by one of skill in this art, for those knowledgeable in this art would have been of the opinion that such a substitution would destroy the armour plating of Mohr for its intended function, which is protection from projectiles. To the contrary, the instant invention is designed to protect from the energy of explosions. Moreover, the rejection fails to offer any reason or motivation that would cause one working on the art of armour plating to turn to the art of oil catalysts for a solution to some unstated problem. With all due respect, the incorrect or strained characterization by the Examiner that the hard ceramic plates of Mohr are "inherently 'particle-shaped'" is an unreasonable stretch and does not constitute a motivation. If one is going to use the motivation of "mere substitution of known ceramics" as the rejection proposes as the rejection has done, one would indeed look to disclosures within the art of ballistic ceramics, such as are discussed in Palika, Ghiorse and Aghajanian. They describe many ceramic materials, but none like the particulate material claimed here. If one goes outside of the art under consideration, the rejection would have to provide a logical factual analysis as to why one working in the art of ballistic ceramic devices would turn to the art of oil processing ceramic catalysts. Moreover, even if one in the art were to consider such a different kind of ceramic material, the processes at work wherein a pure solid ceramic absorbs the

ballistic energy of a projectile, would be so different from those present in the instant material which absorbs explosive energy, that they would likely be dismissed out of hand as being not suitable. Only Applicant has combined features from two totally disparate arts and resulted in a lightweight and explosion proof protection system as presented in the claimed invention. Therefore, neither the primary reference nor the secondary reference discloses nor suggests at least one layer of a particle-shaped material that is a ceramic material comprising individual ceramic particles, the ceramic material presenting a density in the range of approximately 0.3 to 1.5 g/cm³, a pore diameter in the range of approximately 20 to 120 μ and a physical size in the range of approximately 0.5 to 10 mm in an assembly for protection from an explosion, as recited in amended claim 1, from which claims 2-10 depend. Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the subject matter recited in currently pending claims 1-10.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the prior art as applied to claim 1, and further in view of U.S. Pub. No. 2002/0152881 to Stevens et al. ("Stevens"). This rejection is respectfully traversed.

Stevens is cited for a showing of rubber coated fibers. However, to the contrary, Stevens fails to show or suggest the use of one intermediate layer of a particle-shaped material, and that the at least one layer of a particle-shaped material is a ceramic material comprising individual ceramic particles, the ceramic material presenting a density in the range of approximately 0.3 to 1.5 g/cm³, a pore diameter in the range of approximately 20 to 120 μ and a physical size in the range of approximately 0.5 to 10 mm in the art of explosion resistant material so as to remedy the defects discussed above in the combination applied to claim 1. Reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

All objections and rejections raised in the Office Action having been properly traversed and addressed, it is respectfully submitted that the present application is in condition for allowance. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been

made to the outstanding Office Action, and as such, the present application is in condition for allowance. Notice of same is earnestly solicited.

Prompt and favorable consideration of this Amendment is respectfully requested.

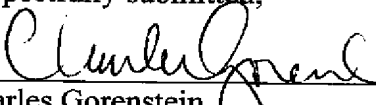
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Paul T. Sewell, Registration No. 61,784, at (703) 205-8000, in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.14; particularly, extension of time fees.

Dated: January 13, 2009

Respectfully submitted,

By



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